

CLAIMS

- [1] An ultrasonic probe, comprising:
an ultrasonic device that transmits and receives ultrasound;
a frame that supports the ultrasonic device;
5 a window that is coupled with the frame so as to surround the
ultrasonic device; and
an ultrasound propagation medium with which a space surrounded
by the frame and the window is filled,
wherein the window comprises a resin portion having a property of
10 letting ultrasound pass therethrough and a metal portion, a part of the metal
portion being embedded in an inside of the resin portion and another part
being exposed to an outside of the resin portion, and
the coupling of the window and the frame is implemented by coupling
the part of the metal portion exposed to the outside of the resin portion with
15 the frame.
- [2] The ultrasonic probe according to claim 1, wherein a through hole is
provided in the metal portion at the part embedded in the inside of the resin
portion.
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- [3] The ultrasonic probe according to claim 1, wherein a convexo-concave
structure is provided at the metal portion at the part embedded in the inside
of the resin portion.
- 25 [4] The ultrasonic probe according to claim 1, wherein a
surface-roughening treatment is applied to the metal portion at the part
embedded in the inside of the resin portion.
- [5] The ultrasonic probe according to claim 1, wherein a bending portion
30 is provided at the metal portion at the part embedded in the inside of the

resin portion.

[6] The ultrasonic probe according to claim 1, wherein the window is manufactured by insert molding.

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[7] The ultrasonic probe according to claim 1, wherein a male-shaped part and a female-shaped part are provided at coupling faces of the frame and the part of the metal portion exposed to the outside of the resin portion, and the male-shaped part and the female-shaped part are engaged so as to couple
10 the metal portion and the frame.

[8] The ultrasonic probe according to claim 1, wherein a hook is provided at the part of the metal portion exposed to the outside of the resin portion, and the metal portion and the frame are coupled by latching with the hook.

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[9] The ultrasonic probe according to claim 1, wherein the metal portion is disposed so as to surround at least a part of the ultrasonic device other than an ultrasound transmission/reception face of the ultrasonic device.

20 [10] The ultrasonic probe according to claim 1, wherein the resin portion is made of polymethyl pentene.

[11] The ultrasonic probe according to claim 1, wherein the metal portion is made of stainless steel.